

WHAT IS CLAIMED IS:

1. A bandgap voltage reference circuit comprising:
 - a first circuit providing a first voltage substantially proportional to V_{be} of a first bipolar transistor;
 - 5 a second circuit providing a second voltage ΔV_{be} substantially proportional to the difference of two V_{be} voltages of two bipolar transistors; and
 - a comparator having respective inputs coupled to V_{be} and ΔV_{be} and an output coupled to the base of the first bipolar transistor whereby a voltage substantially proportional to the sum of respective constants multiplying V_{be} and ΔV_{be} is provided at
10 the output of the comparator.
2. A bandgap voltage reference circuit comprising:
 - a first bipolar transistor providing substantially a reference voltage V_{be} ;
 - a current mirror circuit comprising two bipolar transistors coupled in a current mirror arrangement for providing a voltage difference ΔV_{be} comprising substantially a
5 difference signal between the respective V_{be} voltages of the two bipolar transistors; and
 - a comparator having respective inputs coupled to V_{be} and ΔV_{be} and an output coupled to the base of the first bipolar transistor whereby a voltage substantially proportional to the sum of respective constants multiplying V_{be} and ΔV_{be} is provided at the output of the comparator.
3. A bandgap voltage reference circuit comprising:
 - a first circuit providing a first voltage substantially proportional to V_{be} of a first bipolar transistor;
 - a second circuit providing a second voltage ΔV_{be} substantially proportional to the difference of two V_{be} voltages of two bipolar transistors; and

a comparator having respective inputs coupled to V_{be} and ΔV_{be} and an output coupled to the base of the first bipolar transistor whereby a substantially temperature independent voltage reference is provided at the output of the comparator.